Other Miscellaneous Notable Changes

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Third-Party Improvements

- **Updates to third-party packages:**
  - GASNet: 1.24.0
  - hwloc: 1.10.1
  - llvm: 3.6.0
  - dygraphs: 1.1.0
- **Auto-install of Python packages required by chpldoc**
  - removed creoleparser and Sphinx (used by previous chpldoc version)
- **Re-architected Makefiles and scripting for third-party**

Environment/Configuration Changes

- **Makefiles now support parallel builds**
- **setchplenv now prepends to paths rather than appending**
- **made quickstart scripts explicitly turn some things off**
  - otherwise, can accidentally pick things up on certain platforms/builds
- **improved auto-detection of CHPL_ATOMICS for intrinsics**
- **split cygwin/netbsd into 32- and 64-bit versions**
- **CHPL_TARGET_PLATFORM now auto-detects on Crays**
- **CHPL_TASKS defaults to 'fifo' for PrgEnv-cray compiler**
  - Qthreads requires inline assembly
- **PrgEnv-cray builds are now unoptimized by default**
  - faster compile times, more consistent with other compilers

Portability Improvements

- Improved portability to NetBSD, additional Linux flavors
- Fixed portability issues with hwloc and --lnuma
- New micro-sleep in Cygwin yields improves throughput
- Fixed --llvm flag for darwin/Mac OS X
- Fixed a GMP build issue for 32-bit platforms

Additional Compiler Flag Changes

- added --[no-]use-noinit to ignore ‘noinit’ in sources
- added CHPL_FAST as a means of setting --fast by default
- added --[no-]ignore-classes to disable local class opts.
- added --[no-]cast-checks to control safeCast checks
- added --[no-]munge-user-idents to control munging
- moved all chpldoc-related options to chpldoc binary

Notable Bug Fixes

- Fixed a bug in dynamic dispatch of iterators
- Fixed a bug with parallel iteration over ‘align’ed ranges
- Fixed a bug where records did not call user constructors
- Fixed a bug in arrays of associative domains
- Fixed a bug with formatted writes of integers using ‘###.’
- Fixed an infinite loop with binary reads of strings on EOF
- Fixed a bug preventing sparse indices being uints
- Fixed a bug casting param integers to c_strings
- Fixed a bug with secondary parentheses-less methods

(see “Bug Fixes” in $CHPL_HOME/CHANGES for more)

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